

Amendments to the Claims:

1. (Currently amended) A cable modem for connecting Customer Premises Equipment (CPE) devices comprising

a Media Access Control (MAC) layer controller;

a Logical Link Control (LLC) bridge interacting with the MAC layer controller;

an Internet Protocol (IP) stack processing IP frames and interacting with the LLC bridge;

CPE interfaces, each CPE interface ~~linked to~~ communicating with one associated CPE device ~~of Customer Premises Equipment~~; and

a multiplexer of CPE interfaces linked to the CPE interfaces and to the LLC bridge wherein the multiplexer has

a table ~~of the CPE interfaces linked to the multiplexer with~~ comprising data related to the CPE interfaces, the data being used by an identification function to determine an ~~addressed interface chosen from the CPE interfaces~~, to which a data frame with a specific receiver physical address is directed, and

a table with MAC addresses of CPE devices ~~of the CPE~~ and identifiers of the CPE interfaces ~~to which of the devices of the CPE are linked, where an~~ wherein each interface identifier ~~, to which device of the CPE with a specific MAC address is connected,~~ is determined by a check-and-associate function, and wherein records to the table with MAC addresses are added using an adding function, which analyses commands sent by the CPE interfaces to the multiplexers;

wherein the multiplexer enables transfer of data between the LLC bridge and ~~one of~~ the CPE interfaces and wherein each of the CPE interfaces is ~~an interface of a virtual CPE being an application and operates dependent on received frames~~ and controls flow of data between the multiplexer ~~and the application~~ and the associated CPE device.

2. (Canceled)

3. (Canceled)

4. (Currently amended) The cable modem according to claim 1, wherein the table comprising ~~the CPE interfaces~~ data related to the CPE interfaces comprises a name of the device of the CPE, an ID number of the device of the CPE and a MAC address of the device of the CPE.

5. (Currently amended) A method for controlling flow of data between a cable modem and Customer Premises Equipment (CPE) devices linked to the cable modem equipped with ~~an~~ a Logical Link Control (LLC) bridge and a multiplexer of CPE interfaces having an input buffer and an output buffer comprising

providing the multiplexer of CPE interfaces with a table of interfaces comprising data enabling identification of the interfaces by a Media Access Control (MAC) address;

using the table of CPE interfaces by an identifying function to determine ~~an identifier of each~~ a CPE interface, to which a frame ~~with a specific receiver MAC address~~ is to be transmitted via a sending function;

controlling the input buffer by creating a list of recipient CPE interfaces to which the frame is directed;

informing the recipient CPE interfaces about the frame in the input buffer;

increasing by one a counter of informed recipient CPE interfaces ~~for each informed~~ when any one of the recipient CPE interfaces receives the frame;

increasing by one a counter of received frames for each ~~when recipient CPE interfaces receive the frame from the buffer~~ received by any one of the recipient CPE interfaces; and

determining that the frame is received by all recipient CPE interfaces when the counter of received frames reaches the counter of informed recipient CPE interfaces.

6. (Currently amended) The method for controlling flow of data according to claim 5

further comprising

- transmitting outgoing data from the cable modem through the CPE interface to the output buffer;
- checking if the outgoing data is also directed to another CPE interface;
- reserving the input buffer;
- sending the outgoing data to the input buffer when the outgoing data is directed to another CPE interface
- canceling reservation of the input buffer when the outgoing data is received from the input buffer by all CPE interfaces, to which it was directed; ~~and~~
- ~~sending information to the LLC bridge about the outgoing data in the output buffer directed to the LLC bridge.~~

7. (Currently amended) The method for controlling flow of data according to claim 5 further comprising

- reserving the input buffer;
- transmitting incoming data through the LLC bridge to the input buffer; and
- canceling reservation of the input buffer when the incoming data is received from the input buffer by all interfaces, to which it was directed.

8. (Canceled)

9. (New) A cable modem for connecting Customer Premises Equipment (CPE) devices, the cable modem comprising

- a Media Access Control (MAC) layer controller;
- a Logical Link Control (LLC) bridge interacting with the MAC layer controller;
- an Internet Protocol (IP) stack processing IP frames and interacting with the LLC bridge;
- CPE interfaces, each CPE interface communicating with one associated CPE device; and
- a multiplexer of CPE interfaces linked to the CPE interfaces and to the LLC bridge wherein the multiplexer has

a table of the CPE interfaces with data related to the CPE interfaces, the data being used by an identification function to determine CPE interface belonging to the CPE interfaces, to which an IP frame with a specific receiver physical address is directed, and

a table with MAC addresses of devices of the CPE and identifiers for identifying the CPE interfaces wherein an identifier of CPE interface is determined by a check-and-associate function, and wherein records to the table with MAC addresses are added using an adding function, which analyses commands sent by the CPE interfaces to the multiplexer; CPE devices, with a specific MAC address, linked to given CPE interfaces, where the identifier of a CPE interface is determined by a check-and-associate function, and records to the table with MAC addresses are added using an adding function, which analyses commands sent by the CPE interfaces to the multiplexer;

wherein the multiplexer enables transfer of data between the LLC bridge and one of the CPE interfaces; and

wherein each of the CPE interfaces is an interface of a virtual CPE device and operates dependent on received IP frames and controls flow of data between the multiplexer and the associated CPE device.